

## REMARKS/ARGUMENTS

In the Office Action mailed October 23, 2008, claims 1-13 were rejected. Additionally, claim 8 was objected to. Additionally, the specification was objected to. In response, Applicants hereby request reconsideration of the application in view of the amendments and the below-provided remarks. No claims are added or canceled.

For reference, claims 1-3, 5, 7, 9, 10, and 12 are amended. In particular, claim 1 is amended to improve the formatting of the claim and to clarify the language of the claim. Claims 2, 3, 8, 10, and 12 are amended to clarify the language of the claims. Claim 7 is amended to change the dependency from claim 4 to claim 6. Claim 9 is amended to remove a reference designation. These amendments are supported by the original language of the claims.

### Objections to the Specification

The Office Action objects to the specification because the title is not descriptive. The Office Action suggests that the title be amended as “Energy saving passive matrix display device and method for driving the column voltage having minimum transitions.” Applicants appreciate the Examiner’s suggested new title.

Applicants note that the title is amended as “Energy saving passive matrix display device and method for driving the column voltage having reduced transitions.” Accordingly, Applicants respectfully request that the objection to the specification be withdrawn.

### Objections to the Claims

The Office Action objects to claim 8 for a typographical error. Applicants note that claim 8 is amended to use the notation “ $a_{i,j}$ ” instead of “ $a_{ij}$ ” (a comma is added between the “i” and “j” designations, as suggested by the Examiner). Accordingly, Applicants respectfully request that the objection to claim 8 be withdrawn.

### Claim Rejections under 35 U.S.C. 103

Claims 1-9 and 13 were rejected under 35 U.S.C. 103(a) as being unpatentable over Scheffer et al. (U.S. Pat. No. 5,485,173, hereinafter Scheffer) in view of Kobayashi (U.S. Pat. No. 6,927,785, hereinafter Kobayashi). Additionally, claims 10-12 were rejected under 35 U.S.C. 103(a) as being unpatentable over Scheffer in view of Kobayashi further in view of Okamoto (U.S. Pat. No. 6,094,184, hereinafter Okamoto). However, Applicants respectfully submit that these claims are patentable over Scheffer, Kobayashi, and Okamoto for the reasons provided below.

#### Independent Claim 1

Applicants submit that rejection of claim 1 is improper because the Office Action does not establish a *prima facie* case of obviousness for the limitations recited in claim 1. Claim 1 recites

Display device comprising:

- a liquid crystal material between a first substrate provided with row electrodes and a second substrate provided with column electrodes, in which overlapping parts of the row and column electrodes define pixels;

- driving means for driving the column electrodes in conformity with an image to be displayed, wherein column voltages  $G_j(t)$  are supplyable to the column electrodes, wherein the column voltages  $G_j(t)$  to be supplied are selectable from a predetermined number of column voltages levels; and

- driving means for driving the row electrodes, wherein the row electrodes supply groups of  $p$  rows ( $p \geq 1$ ) with mutually orthogonal selection signals for driving pixels and the groups of  $p$  rows are driven for the duration of a row selection time  $p \times n_{\text{frc}}$  during a superframe including  $n_{\text{frc}}$  frames for generating grey scales,

- wherein the row selection time is subdivided in  $n_{\text{pwm}}$  sub selection time slots and the grey scales are coded in grey scale tables having  $n_{\text{frc}}$  phases with  $n_{\text{pwm}}$  sub selection time slots,

- wherein for the  $n_{\text{frc}}$  frames of the superframe the grey scales are generated by using phase mixing, defining which phase of grey scale coding is used for a certain frame,

- wherein a column voltage  $G_j(t)$  is calculated depending on the grey scales to be displayed by the  $p$  concurrently driven pixels in a column and depending on the used mutually orthogonal selection signals  $F_i$  for the corresponding group of rows,

- wherein a change in the column voltage level is defining a transition, and

wherein the column voltage  $G_j(t)$  to be supplied to a column electrode has always less transitions per row selection time than the number  $n_{\text{pwm}}$  of sub selection time slots of the row selection time. (Emphasis added.)

The rejection of claim 1 is improper because the Office Action does not establish a *prima facie* rejection for claim 1. In order to establish a *prima facie* rejection of a claim under 35 U.S.C. 103, the Office Action must present a clear articulation of the reason why the claimed invention would have been obvious. MPEP 2142 (citing *KSR International Co. v. Teleflex Inc.*, 550 U.S. \_\_ (2007)). The analysis must be made explicit. *Id.* Additionally, rejections based on obviousness cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *Id.*

Here, the Office Action fails to explain why the limitations of the claim would have been obvious because the Office Action does not assert any reference which might teach phase mixing, as recited in the claim. In particular, the Office Action acknowledges that Scheffer does not teach phase mixing. However, the Office Action fails to assert that Kobayashi might teach phase mixing. Therefore, the Office Action fails to establish a *prima facie* case of obviousness at least because the Office Action does not assert that the combination of cited references might teach all of the limitations of the claim. Moreover, a review of the teachings of Scheffer and Kobayashi reveals that neither Scheffer nor Kobayashi addresses phase mixing, as recited in the claim and described in the specification of the present application.

Therefore, the Office Action fails to establish a *prima facie* rejection for claim 1 because the Office Action does not assert or show how the cited references might teach phase mixing, as recited in the claim. Accordingly, Applicants respectfully submit that the rejection of claim 1 under 35 U.S.C. 103(a) should be withdrawn because the Office Action fails to establish a *prima facie* rejection.

### Dependent Claims

Claims 2-13 depend from and incorporate all of the limitations of independent claim 1. Applicants respectfully assert claims 2-13 are allowable based on allowable base claims. Additionally, each of claims 2-13 may be allowable for further reasons.

### **CONCLUSION**

Applicants respectfully request reconsideration of the claims in view of the amendments and the remarks made herein. A notice of allowance is earnestly solicited.

At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account **50-4019** pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees to Deposit Account **50-4019** under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Respectfully submitted,

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